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December 17, 2004

Mary L. Cottrell, Secretary
Department of Telecommunication and Energy
One South Station, 2nd Floor
Boston, MA 02202

Re: City of Cambridge, D.T.E. 04-65

Dear Secretary Cottrell:

Enclosed please find the responses of Cambridge Electric Light Company d/b/a NSTAR Electric ("NSTAR Electric" or the "Company") to discovery questions asked in the above-referenced proceeding, as listed on the following Discovery Log.

Thank you for your attention to this matter.

Very truly yours,

John K. Habib

John K. Habib

Enclosures

cc: John Shortsleeve, Esq.
William Stevens, Hearing Officer
Sean Hanley, Rates and Revenues Requirements
James Byrnes, Rates and Revenues Requirements
Mark Barrett, Rates and Revenues Requirements

LOG OF RESPONSES FILED

D.T.E. 04-65

December 17, 2004

Response	Status	Attachments
City 1-1	Filed 12/14/2004 (a.m. filing)	Attachment City-1-1(a) **SENT VIA E-MAIL** Attachment City-1-1-(b) **SENT VIA E-MAIL**
City 1-2	Filed December 16, 2004	Attachment City-1-2 (a) **SENT VIA E-MAIL** Attachment City-1-2 (b) **SENT VIA E-MAIL**
City 1-3	Filed 12/14/2004 (a.m. filing)	Attachment City-1-3(a) **BULK** Attachment City-1-3(b)
City-1-4	Filed 12/14/2004 (p.m. filing)	
City-1-5	Filed 12/14/2004 (a.m. filing)	Attachment City-1-5
City-1-6	Filed December 15, 2004	
City-1-7	Filed Herewith	
City-1-8	Filed Herewith	
City-1-9	Filed Herewith	Attachment City-1-9
City-1-10	Filed December 15, 2004	
City-1-11	Filed 12/14/2004 (p.m. filing)	
City-1-12	Filed 12/14/2004 (p.m. filing)	
City-1-13	Filed Herewith	Attachment City-1-13(a) Attachment City-1-13(b)
City-1-14	Filed Herewith	
City-1-15	Filed Herewith	Attachment City-1-15
City-1-16	Filed Herewith	Attachment City-1-16
City-1-17	Filed Herewith	
City-1-18	Filed December 15, 2004	
City-1-19	Filed Herewith	
City-1-20	Filed December 15, 2004	
City-1-21	Filed Herewith	
City-1-22	Filed December 15, 2004	
City-1-23	Filed Herewith	
City-1-24	Filed Herewith	
City-1-25	Filed Herewith	
City-1-26	Filed Herewith	
City-1-27	Filed December 16, 2004	
City-1-28	Filed Herewith	
City-1-29	Filed December 16, 2004	
City-1-30	Filed Herewith	
City-1-31	Filed Herewith	Attachment City-1-31
City-1-32	Filed December 16, 2004	
City-1-33	Filed 12/14/2004 (p.m. filing)	

Response	Status	Attachments
City-1-34	Filed December 16, 2004	
City-1-35	Filed December 16, 2004	
City-1-36	Filed December 16, 2004	
City-1-37	Filed December 16, 2004	
City-1-38	Filed December 16, 2004	
City-1-39	Filed December 16, 2004	
City-1-40	Filed December 16, 2004	
City-1-41	Filed December 16, 2004	
City-1-42	Filed December 16, 2004	
City-1-43	Filed December 16, 2004	
City-1-44	Filed December 16, 2004	
City-1-45	Filed December 16, 2004	
DTE-1-1	Filed December 16, 2004	
DTE-1-2	Filed Herewith	
DTE-1-3	Filed Herewith	
DTE-1-4	Filed December 16, 2004	
DTE-1-5	Filed Herewith	Attachment DTE-1-5
DTE-1-6	Filed December 16, 2004	
DTE-1-7	Filed December 16, 2004	
DTE-1-8	Filed December 16, 2004	
DTE-1-9	Filed Herewith	
DTE-1-10	Filed Herewith	
DTE-1-11	Filed Herewith	Attachment DTE-1-11(a) Attachment DTE-1-11(b)

Information Request City 1-7

Please refer to the annual depreciation rates listed in column 6 of Exhibit CAM 5. Please confirm that the Company used the same streetlight specific depreciation rates listed in Exhibit CAM 5 to calculate annual streetlight depreciation expense. If there is any deviation from the depreciation rates listed in Exhibit CAM 5 and the depreciation rates used by the Company, to calculate annual depreciation expense, please provide the depreciation rates used by the Company and explain any such deviation from the depreciation rates listed in Exhibit CAM 5.

Response

The depreciation rates used on Exhibit CAM-5 were supplied by the Company for the period since 1973. The rates prior to that time are not readily available at this time. The Company has researched as far back as was possible for the period prior to 1973 using readily available records and personal knowledge. Based on that research, the Company believes that the rates listed in Exhibit CAM-5 prior to 1973 may not be exactly accurate, but are approximately correct. Additionally, the rate listed for years prior to 1999 are approximate composite values since the Company actually used a different rate for each sub-account when calculating depreciation expense. The following chart shows the Department-approved depreciation rate for each sub-account used during the 1992-1999 period.

Sub-Account	Rate
373.71	7.27 percent
373.73	5.90 percent
373.74	3.24 percent
373.75	3.73 percent

Information Request City 1-8

Please refer to the annual depreciation expense listed in column 7 of Exhibit CAM 5. Please confirm that the Company calculated the same annual streetlight depreciation expense for each year since 1942. If there is any deviation from the depreciation expenses listed in Exhibit CAM 5 for each year since 1942 and the annual streetlight depreciation expenses calculated by the Company, please provide the annual depreciation expenses calculated by the Company and explain any such deviation from the values listed in Exhibit CAM 5.

Response

Please see the Company's response to Information Request City-1-7.

Information Request City 1-9

Please refer to the annual accumulated depreciation expense listed in column 8 of Exhibit CAM 5. Please confirm that the Company calculated the same annual accumulated depreciation expense for each year since 1942. If there is any deviation from the accumulated depreciation expenses listed in Exhibit CAM 5 for each year since 1942 and the annual accumulated depreciation expenses calculated by the Company, please provide the annual accumulated depreciation expenses calculated by the Company and explain any such deviation.

Response

The Company does not agree with the accumulated depreciation listed in column 8 of Exhibit CAM-5. To illustrate the inaccuracy of the City's calculation, the following table compares the accumulated depreciation listed in column 8 of Exhibit CAM-5 to the accumulated depreciation balance used in the Company's base rate filings for the years 1973, 1978, 1986, 1991 and 2003 in Table 1 below. This shows that the accumulated depreciation values listed in Exhibit CAM-5 are significantly higher than those provided in Company records. This significantly understates the City's estimate of net book value.

Table 1

Cambridge Streetlighting Equipment

Year Col A	Plant Balance Col B	Book Depreciation Reserve Col C	Accumulated Depreciation Col E = CAM5 col 8	% Difference Col F=(Col E - Col C)/Col C	Source
Dec.31, 1973	1,224,658	360,746	612,154	70%	1973 Depreciation Study
Dec. 31, 1978	1,663,474	664,039	869,277	31%	1978 Depreciation Study
Dec. 31, 1986	2,265,549	726,802	1,173,043	61%	1986 Depreciation Study
Dec. 31, 1991	2,793,315	397,703	1,009,247	154%	1992 Depreciation Study
Jun. 30, 1992	2,890,496	468,810	1,000,002 est	113%	1992 Depreciation Study
Dec. 31, 2003	3,784,028	1,565,529	2,660,466	70%	From Company's Books

The deviation is caused, in most part, by the omission of critical variables in the calculation of accumulated depreciation. In order to properly calculate accumulated depreciation for a particular account, the Company must include more variables than the annual depreciation expense for such account. Specifically, the Company uses Department-approved depreciation rates, gross plant values, actual retirements, costs of removal and net salvage values as directed in the Code of Federal Regulations, Title 18, Chapter 1, Part 101 of the Uniform System of Accounts prescribed for Public Utilities, Balance Sheet Accounts, Accumulated Provision for Depreciation of Electric Utility Plant, to

determine accumulated depreciation. The Company's accumulated depreciation for a particular account is represented by the following algebraic expression:

$$DR_e = DR_b + (AGP * Rate) - RP - COR + SAL$$

Where:
DR_e = Depreciation reserve ending balance
DR_b = Depreciation reserve beginning balance
AGP = Average Gross Plant
Rate = Department approved depreciation rate
RP = Original Cost of plant retired in the period
COR = Cost of Removal related to retired plant
SAL = Salvage value of plant retired

Please Refer to Attachment City-1-9 for a copy of the applicable page from the Code of Federal Regulations, 18 CFR, part 101, governing the amounts recorded in Account 108.

this account. Records must be maintained to show separately each project along with complete detail of the nature and purpose of the research, development, and demonstration project together with the related costs.

108 Accumulated provision for depreciation of electric utility plant (Major only).

A. This account shall be credited with the following:

(1) Amounts charged to account 403, Depreciation Expense, or to clearing accounts for current depreciation expense for electric plant in service.

(2) Amounts charged to account 421, Miscellaneous Nonoperating Income, for depreciation expense on property included in account 105, Electric Plant Held for Future Use. Include, also, the balance of accumulated provision for depreciation on property when transferred to account 105, Electric Plant Held for Future Use, from other property accounts. Normally account 108 will not be used for current depreciation provisions because, as provided herein, the service life during which depreciation is computed commences with the date property is includible in electric plant in service; however, if special circumstances indicate the propriety of current accruals for depreciation, such charges shall be made to account 421, Miscellaneous Nonoperating Income.

(3) Amounts charged to account 413, Expenses of Electric Plant Leased to Others, for electric plant included in account 104, Electric Plant Leased to Others.

(4) Amounts charged to account 416, Costs and Expenses of Merchandising, Jobbing, and Contract Work, or to clearing accounts for current depreciation expense.

(5) Amounts of depreciation applicable to electric properties acquired as operating units or systems. (See electric plant instruction 5.)

(6) Amounts charged to account 182, Extraordinary Property Losses, when authorized by the Commission.

(7) Amounts of depreciation applicable to electric plant donated to the utility.

(The utility shall maintain separate subaccounts for depreciation applicable to electric plant in service, electric plant leased to others and electric plant held for future use.)

B. At the time of retirement of depreciable electric utility plant, this account shall be charged with the book cost of the property retired and the cost of removal and shall be credited with the salvage value and any other amounts recovered, such as insurance. When retirement, costs of removal and salvage are entered originally in retirement work orders, the net total of such work orders may be included in a separate subaccount hereunder. Upon completion of the work order, the proper distribution to subdivisions of this account shall be made as provided in the following paragraph.

C. For general ledger and balance sheet purposes, this account shall be regarded and treated as a single composite provision for depreciation. For purposes of analysis, however, each utility shall maintain subsidiary records in which this account is segregated according to the following functional classification for electric plant: (1) Steam production, (2) Nuclear production, (3) Hydraulic production, (4) Other production, (5) Transmission, (6) Distribution, and (7) General. These subsidiary records shall reflect the current credits and debits to this account in sufficient detail to show separately for each such functional classification (a) the amount of accrual for depreciation, (b) the book cost of property retired, (c) cost of removal, (d) salvage, and (e) other items, including recoveries from insurance.

D. When transfers of plant are made from one electric plant account to another, or from or to another utility department, or from or to nonutility property accounts, the accounting for the related accumulated provision for depreciation shall be as provided in electric plant instruction 12.

E. The utility is restricted in its use of the accumulated provision for depreciation to the purposes set forth above. It shall not transfer any portion of this account to retained earnings or make any other use thereof without authorization by the Commission.

Information Request City 1-13

Please provide a calculation of the unamortized investment of the streetlight plant in Cambridge using the method approved in DTE 98-89, as used by NSTAR to calculate the streetlight unamortized value in Lexington. Please present the DTE 98-89 calculation, prepared in response to this question for each year since 1942, with columns similar to the 11-column format used by Mr. Chernick in Exhibit CAM-5. Please explain any differences between the DTE 98-89 calculation prepared by the Company and the calculation demonstrated by Mr. Chernick in Exhibit CAM-5.

Response

The method used by Boston Edison in calculating its price for streetlights in the D.T.E. 98-89 has no bearing on the facts of this case. Unlike Boston Edison Company's records regarding Lexington, Cambridge Electric Light Company (the "Company") has records for depreciation expense, retirements, cost of removal and salvage specific to the City of Cambridge, because the City is the Company's sole municipal customer. Since the Company serves only one municipality, there is no reason to construct an artificial depreciation reserve as was necessary for Boston Edison Company to calculate a price for streetlights in Lexington. Thus, the methodology used to calculate prices for streetlights for Lexington in D.T.E. 98-89 is inapplicable to this case. Moreover, the methodology used in D.T.E. 98-89 was arrived at via a settlement of the parties to that proceeding, and as such, has no precedential value.

However, in order to be responsive to the City's request, please see Attachment City-1-13(a) for the requested information. It was not possible to precisely replicate the requested calculation because, although Cambridge has records for retirements and additions to streetlighting as a whole, it does not have the records to associate its annual retirements and additions to individual sub-accounts. Thus, the attached calculation assumed that all activity occurred in sub-account 635. Additionally, the methodology used in D.T.E. 98-89 did not include transfers and adjustments. These values have been added into the requested calculation. The Company notes that the results of the requested calculation (a project total book value of $1,109,680 as of December 31, 2003) when compared to the actual amount on the Company's books of $2,218,498 as shown on Exhibit NSTAR-1 proves that the artificial methodology used in D.T.E. 98-89 and in D.T.E. 02-11 does not adequately compensate the Company for the actual unamortized investment of its streetlights.

Additionally, to show the effect of ignoring negative salvage costs on the streetlight valuation, the Company is providing a second version of this calculation as Attachment City-1-13(b) which includes negative salvage costs. This version results in a total streetlight value of $2,053,105. This results in a valuation that is nearly twice the incorrect version in Attachment City-1-13(a), and much closer to the Company's actual net book value.

Category	Gross Investment	Accumulated Depreciation	Net Investment
Account 632 Street Light OH Conductors			
Account 633 Street Light UG Conduit			
Account 634 Street Light UG Conductors			
Account 635 Municipal posts, fixtures, luminaires	3,783,578.31	2,673,898.04	1,109,680.27
Account 636 Commercial posts, fixtures, luminaires			
Account 637 Outdoor Street Light Transformers and control equipment			
Waltham CCNC			
Total before allocations	3,783,578.31	2,673,898.04	1,109,680.27
Step 1. Allocate CCNC			
Total allocation accounts 632, 633, 634, 635, 636, 637.			
Waltham CCNC to be allocated over above accounts	0.00	0.00	
Account 632 Street Light OH Conductors			
Account 633 Street Light UG Conduit			
Account 634 Street Light UG Conductors			
Account 635 Municipal posts, fixtures, luminaires	3,783,578.31	2,673,898.04	1,109,680.27
Account 636 Commercial posts, fixtures, luminaires			
Account 637 Outdoor Street Light Transformers and control equipment			
Waltham CCNC			
CCNC Allocation of accounts Subtotal	3,783,578.31	2,673,898.04	1,109,680.27

Sept 2. Allocate accounts 632, 633, 634, 637 to 635 and 636			
Allocation Total for 632, 633, 634, 637	**0.00**	**0.00**	
Total 635, 636	**3,783,578.31**	**2,673,898.04**	
Account 632 Street Light OH Conductors			
Account 633 Street Light UG Conduit			
Account 634 Street Light UG Conductors			
Account 635 Municipal posts, fixtures, luminaires	**3,783,578.31**	**2,673,898.04**	**1,109,680.27**
Account 636 Commercial posts, fixtures, luminaires	**0.00**	**0.00**	**0.00**
Account 637 Outdoor Street Light Transformers and control equipment			
Subtotal	**3,783,578.31**	**2,673,898.04**	**1,109,680.27**
Step 3. Allocate account 637 to Commercial / Non-Commercial			
Account 632 Street Light OH Conductors			
Account 633 Street Light UG Conduit			
Account 634 Street Light UG Conductors			
Account 635 Municipal posts, fixtures, luminaires	**3,681,866.31**	**2,673,898.04**	**1,109,680.27**
Account 636 Commercial posts, fixtures, luminaires			
Account 637 Outdoor Street Light Transformers and control equipment			
Waltham CCNC Subtotal after allocations	**3,681,866.31**	**2,673,898.04**	**1,109,680.27**
Account 635 MDC/Commercial usage	**515,461.28**	**374,345.73**	**155,355.24**
Total City Investment	**3,166,405.03**	**2,299,552.32**	**954,325.03**

Account 373 Street Light Equipment										
YEAR	Additions	Retirements	Transfers	Adjustments	Net Balance	Avg. Balance	Depr. Rate	Depr/ Exp.	Neg. Salv.	Accum. Depr.
					376,009.00					
1942	2,017	(2,979)			375,047.76	375,528.38	6.46%	24,259.13		209,284.99
1943	1,907	(14,513)		(1,036)	361,405.94	368,226.85	6.46%	23,787.45		218,559.81
1944	3,542	(2,943)		31	362,035.66	361,720.80	6.46%	23,367.16		238,983.84
1945	3,152	(3,528)		262	361,921.85	361,978.76	6.46%	23,383.83		258,839.48
1946	14,515	(7,941)		(1,353)	367,143.39	364,532.62	6.46%	23,548.81		274,447.56
1947	53,139	(26,256)		52	394,078.50	380,610.95	6.46%	24,587.47		272,778.90
1948	19,653	(11,840)			401,891.10	397,984.80	6.46%	25,709.82		286,648.56
1949	46,954	(23,882)			424,963.16	413,427.13	6.46%	26,707.39		289,474.31
1950	11,550	(5,015)			431,498.18	428,230.67	6.46%	27,663.70		312,122.60
1951	17,436	(7,409)			441,524.90	436,511.54	6.46%	28,198.65		332,912.24
1952	9,066	(3,914)			446,676.78	444,100.84	6.46%	28,688.91		357,686.81
1953	22,698	(6,880)			462,495.27	454,586.03	6.46%	29,366.26		380,173.07
1954	9,154	(4,062)			467,587.35	465,041.31	6.46%	30,041.67		406,152.37
1955	11,695	(5,507)			473,775.90	470,681.63	6.46%	30,406.03		431,051.63
1956	8,584	(2,536)			479,823.93	476,799.92	6.46%	30,801.27		459,316.55
1957	5,220	(2,789)	(171,432)		310,822.97	395,323.45	6.46%	25,537.89		482,065.88
1958	40,456	(4,314)			346,964.62	328,893.80	6.46%	21,246.54		498,998.31
1959	36,624	(21,227)			362,361.70	354,663.16	6.46%	22,911.24		500,682.63
1960	62,238	(17,972)			406,627.43	384,494.57	6.46%	24,838.35		507,549.15
1961	20,861	(8,262)	26,707		445,932.79	426,280.11	6.46%	27,537.70		526,824.38
1962	94,215	(28,278)	(541)		511,328.97	478,630.88	6.46%	30,919.55		529,465.62
1963	64,025	(27,539)			547,814.47	529,571.72	6.46%	34,210.33		536,136.85
1964	48,324	(19,182)	(314)		576,642.96	562,228.72	6.46%	36,319.97		553,275.16
1965	127,949	(38,570)	(139)		665,883.32	621,263.14	6.46%	40,133.60		554,838.76
1966	64,709	(16,589)			714,003.82	689,943.57	6.46%	44,570.35		582,820.26
1967	116,319	(57,960)			772,362.63	743,183.23	6.46%	48,009.64		572,869.87
1968	224,190	(102,473)	(29)		894,050.61	833,206.62	6.46%	53,825.15		524,221.69
1969	68,046	(31,498)	(2,470)		928,129.31	911,089.96	6.46%	58,856.41		551,580.53
1970	241,914	(78,484)	46	62	1,091,667.31	1,009,898.31	6.46%	65,239.43		538,335.96
1971	94,239	(37,271)	(126)		1,148,509.31	1,120,088.31	6.46%	72,357.70		573,422.66
1972	130,277	(83,486)	(170)		1,195,130.31	1,171,819.81	6.46%	75,699.56		565,636.22
1973	61,329	(31,642)		(162)	1,224,655.31	1,209,892.81	6.46%	78,159.08		612,153.30
1974	49,566	(23,357)		(103)	1,250,761.31	1,237,708.31	6.46%	79,955.96		668,752.26
1975	60,338	(45,976)	(133)		1,264,990.31	1,257,875.81	6.46%	81,258.78		704,035.03
1976	110,149	(43,468)	165,321	98,890	1,595,882.31	1,430,436.31	6.46%	92,406.19		752,973.22
~~1977~~	~~43,625~~	~~(19,662)~~	~~(377)~~		~~1,619,468.31~~	~~1,607,675.31~~	~~5.00%~~	~~80,383.77~~		~~813,694.98~~
1978	70,497	(26,493)			1,663,472.31	1,641,470.31	5.00%	82,073.52		869,275.50
1979	59,088	(22,921)	(6,402)		1,693,237.31	1,678,354.81	5.00%	83,917.74		930,272.24
1980	49,798	(20,250)			1,722,785.31	1,708,011.31	5.00%	85,400.57		995,422.81
1981	76,333	(29,361)	(179)		1,769,578.31	1,746,181.81	5.00%	87,309.09		1,053,370.90
1982	214,686	(64,353)			1,919,911.31	1,844,744.81	5.00%	92,237.24		1,081,255.14
1983	157,247	(40,634)	(747)		2,035,777.31	1,977,844.31	5.00%	98,892.22		1,139,513.35
1984	157,446	(85,224)			2,107,999.31	2,071,888.31	5.00%	103,594.42		1,157,883.77
1985	161,893	(107,586)			2,162,306.31	2,135,152.81	5.00%	106,757.64		1,157,055.41
1986	186,883	(83,641)			2,265,548.31	2,213,927.31	4.50%	99,626.73		1,173,041.14
1987	145,342	(84,803)	(26)		2,326,061.31	2,295,804.81	4.50%	103,311.22		1,191,549.35
1988	134,227	(80,141)	(1,073)		2,379,074.31	2,352,567.81	4.50%	105,865.55		1,217,273.91
1989	205,261	(93,270)			2,491,065.31	2,435,069.81	4.50%	109,578.14		1,233,582.05
1990	395,165	(240,002)	(5,259)		2,640,969.31	2,566,017.31	4.50%	115,470.78		1,109,050.83
1991	418,094	(265,551)	(199)		2,793,313.31	2,717,141.31	6.10%	165,745.62		1,009,245.45
1992	400,369	(200,499)	736		2,993,919.31	2,893,616.31	6.29%	182,008.47		990,754.91
1993	303,602	(186,710)			3,110,811.31	3,052,365.31	6.29%	191,993.78		996,038.69
1994	286,349	(102,560)	735		3,295,335.31	3,203,073.31	6.29%	201,473.31		1,094,952.00
1995	124,454	(97,501)	1,140		3,323,428.31	3,309,381.81	6.29%	208,160.12		1,205,611.12
1996	293,339	(84,166)			3,532,601.31	3,428,014.81	6.29%	215,622.13		1,337,067.25
1997	258,436	(95,372)			3,695,665.31	3,614,133.31	6.29%	227,328.99		1,469,024.23
1998	107,512	(89,988)			3,713,189.31	3,704,427.31	6.29%	233,008.48		1,612,044.71
1999	100,318	(61,105)			3,752,402.31	3,732,795.81	6.29%	234,792.86		1,785,732.57
2000	68,432	(33,293)			3,787,541.31	3,769,971.81	6.29%	237,131.23		1,989,570.79
2001	7,567	(1,754)			3,793,354.31	3,790,447.81	6.29%	238,419.17		2,226,235.96
2002	6,528	(4,182)			3,795,700.31	3,794,527.31	6.29%	238,675.77		2,460,729.73
2003	13,078	*(25,200)*			3,783,578.31	3,789,639.31	6.29%	238,368.31		2,673,898.04

Category	Gross Investment	Accumulated Depreciation	Net Investment
Account 632 Street Light OH Conductors			
Account 633 Street Light UG Conduit			
Account 634 Street Light UG Conductors			
Account 635 Municipal posts, fixtures, luminaires	3,783,578.31	1,730,472.90	2,053,105.41
Account 636 Commercial posts, fixtures, luminaires			
Account 637 Outdoor Street Light Transformers and control equipment			
Waltham CCNC			
Total before allocations	3,783,578.31	1,730,472.90	2,053,105.41
Step 1. Allocate CCNC			
Total allocation accounts 632, 633, 634, 635, 636, 637.			
Waltham CCNC to be allocated over above accounts	0.00	0.00	
Account 632 Street Light OH Conductors			
Account 633 Street Light UG Conduit			
Account 634 Street Light UG Conductors			
Account 635 Municipal posts, fixtures, luminaires	3,783,578.31	1,730,472.90	2,053,105.41
Account 636 Commercial posts, fixtures, luminaires			
Account 637 Outdoor Street Light Transformers and control equipment			
Waltham CCNC			
CCNC Allocation of accounts Subtotal	3,783,578.31	1,730,472.90	2,053,105.41

Sept 2. Allocate accounts 632, 633, 634, 637 to 635 and 636			
Allocation Total for 632, 633, 634, 637	**0.00**	**0.00**	
Total 635, 636	**3,783,578.31**	**1,730,472.90**	
Account 632 Street Light OH Conductors			
Account 633 Street Light UG Conduit			
Account 634 Street Light UG Conductors			
Account 635 Municipal posts, fixtures, luminaires	**3,783,578.31**	**1,730,472.90**	**2,053,105.41**
Account 636 Commercial posts, fixtures, luminaires	**0.00**	**0.00**	**0.00**
Account 637 Outdoor Street Light Transformers and control equipment			
Subtotal	**3,783,578.31**	**1,730,472.90**	**2,053,105.41**
Step 3. Allocate account 637 to Commercial / Non-Commercial			
Account 632 Street Light OH Conductors			
Account 633 Street Light UG Conduit			
Account 634 Street Light UG Conductors			
Account 635 Municipal posts, fixtures, luminaires	**3,681,866.31**	**1,730,472.90**	**2,053,105.41**
Account 636 Commercial posts, fixtures, luminaires			
Account 637 Outdoor Street Light Transformers and control equipment			
Waltham CCNC Subtotal after allocations	**3,681,866.31**	**1,730,472.90**	**2,053,105.41**
Account 635 MDC/Commercial usage	**515,461.28**	**242,266.21**	**287,434.76**
Total City Investment	**3,166,405.03**	**1,488,206.70**	**1,765,670.65**

Account 373 Street Light Equipment										
YEAR	Additions	Retirements	Transfers	Adjustments	Net Balance	Avg. Balance	Depr. Rate	Depr/ Exp.	Neg. Salv.	Accum. Depr.
					376,009.00					
1942	2,017	(2,979)			375,047.76	375,528.38	6.46%	24,259.13	(447)	208,838.20
1943	1,907	(14,513)		(1,036)	361,405.94	368,226.85	6.46%	23,787.45	(2,177)	215,936.12
1944	3,542	(2,943)		31	362,035.66	361,720.80	6.46%	23,367.16	(441)	235,918.68
1945	3,152	(3,528)		262	361,921.85	361,978.76	6.46%	23,383.83	(529)	255,245.09
1946	14,515	(7,941)		(1,353)	367,143.39	364,532.62	6.46%	23,548.81	(1,191)	269,662.06
1947	53,139	(26,256)		52	394,078.50	380,610.95	6.46%	24,587.47	(3,938)	264,054.99
1948	19,653	(11,840)			401,891.10	397,984.80	6.46%	25,709.82	(1,776)	276,148.62
1949	46,954	(23,882)			424,963.16	413,427.13	6.46%	26,707.39	(3,582)	275,392.13
1950	11,550	(5,015)			431,498.18	428,230.67	6.46%	27,663.70	(752)	297,288.09
1951	17,436	(7,409)			441,524.90	436,511.54	6.46%	28,198.65	(1,111)	316,966.39
1952	9,066	(3,914)			446,676.78	444,100.84	6.46%	28,688.91	(587)	341,153.80
1953	22,698	(6,880)			462,495.27	454,586.03	6.46%	29,366.26	(1,032)	362,608.07
1954	9,154	(4,062)			467,587.35	465,041.31	6.46%	30,041.67	(609)	387,978.01
1955	11,695	(5,507)			473,775.90	470,681.63	6.46%	30,406.03	(826)	412,051.26
1956	8,584	(2,536)			479,823.93	476,799.92	6.46%	30,801.27	(380)	439,935.72
1957	5,220	(2,789)	(171,432)		310,822.97	395,323.45	6.46%	25,537.89	(418)	462,266.77
1958	40,456	(4,314)			346,964.62	328,893.80	6.46%	21,246.54	(647)	478,552.09
1959	36,624	(21,227)			362,361.70	354,663.16	6.46%	22,911.24	(3,184)	477,052.37
1960	62,238	(17,972)			406,627.43	384,494.57	6.46%	24,838.35	(2,696)	481,223.11
1961	20,861	(8,262)	26,707		445,932.79	426,280.11	6.46%	27,537.70	(1,239)	499,258.97
1962	94,215	(28,278)	(541)		511,328.97	478,630.88	6.46%	30,919.55	(4,242)	497,658.46
1963	64,025	(27,539)			547,814.47	529,571.72	6.46%	34,210.33	(4,131)	500,198.83
1964	48,324	(19,182)	(314)		576,642.96	562,228.72	6.46%	36,319.97	(2,877)	514,459.89
1965	127,949	(38,570)	(139)		665,883.32	621,263.14	6.46%	40,133.60	(5,786)	510,237.99
1966	64,709	(16,589)			714,003.82	689,943.57	6.46%	44,570.35	(2,488)	535,731.16
1967	116,319	(57,960)			772,362.63	743,183.23	6.46%	48,009.64	(8,694)	517,086.77
1968	224,190	(102,473)	(29)		894,050.61	833,206.62	6.46%	53,825.15	(15,371)	453,067.58
1969	68,046	(31,498)	(2,470)		928,129.31	911,089.96	6.46%	58,856.41	(4,725)	475,701.79
1970	241,914	(78,484)	46	62	1,091,667.31	1,009,898.31	6.46%	65,239.43	(11,773)	450,684.62
1971	94,239	(37,271)	(126)		1,148,509.31	1,120,088.31	6.46%	72,357.70	(5,591)	480,180.68
1972	130,277	(83,486)	(170)		1,195,130.31	1,171,819.81	6.46%	75,699.56	(12,523)	459,871.33
1973	61,329	(31,642)		(162)	1,224,655.31	1,209,892.81	6.46%	78,159.08	(4,746)	501,642.11
1974	49,566	(23,357)		(103)	1,250,761.31	1,237,708.31	6.46%	79,955.96	(3,504)	554,737.52
1975	60,338	(45,976)	(133)		1,264,990.31	1,257,875.81	6.46%	81,258.78	(6,896)	583,123.89
1976	110,149	(43,468)	165,321	98,890	1,595,882.31	1,430,436.31	6.46%	92,406.19	(6,520)	625,541.88
1977	43,625	(19,662)	(377)		1,619,468.31	1,607,675.31	5.00%	80,383.77	(2,949)	683,314.35
1978	70,497	(26,493)			1,663,472.31	1,641,470.31	5.00%	82,073.52	(3,974)	734,920.91
1979	59,088	(22,921)	(6,402)		1,693,237.31	1,678,354.81	5.00%	83,917.74	(3,438)	792,479.50
1980	49,798	(20,250)			1,722,785.31	1,708,011.31	5.00%	85,400.57	(3,038)	854,592.57
1981	76,333	(29,361)	(179)		1,769,578.31	1,746,181.81	5.00%	87,309.09	(4,404)	908,136.51
1982	214,686	(64,353)			1,919,911.31	1,844,744.81	5.00%	92,237.24	(9,653)	926,367.80
1983	157,247	(40,634)	(747)		2,035,777.31	1,977,844.31	5.00%	98,892.22	(6,095)	978,530.91
1984	157,446	(85,224)			2,107,999.31	2,071,888.31	5.00%	103,594.42	(12,784)	984,117.73
1985	161,893	(107,586)			2,162,306.31	2,135,152.81	5.00%	106,757.64	(16,138)	967,151.47
1986	186,883	(83,641)			2,265,548.31	2,213,927.31	4.50%	99,626.73	(12,546)	970,591.05
1987	145,342	(84,803)	(26)		2,326,061.31	2,295,804.81	4.50%	103,311.22	(12,720)	976,378.82
1988	134,227	(80,141)	(1,073)		2,379,074.31	2,352,567.81	4.50%	105,865.55	(12,021)	990,082.22
1989	205,261	(93,270)			2,491,065.31	2,435,069.81	4.50%	109,578.14	(13,991)	992,399.86
1990	395,165	(240,002)	(5,259)		2,640,969.31	2,566,017.31	4.50%	115,470.78	(36,000)	831,868.34
1991	418,094	(265,551)	(199)		2,793,313.31	2,717,141.31	6.10%	165,745.62	(39,833)	692,230.31
1992	400,369	(200,499)	736		2,993,919.31	2,893,616.31	6.29%	182,008.47	(190,045)	483,694.77
1993	303,602	(186,710)			3,110,811.31	3,052,365.31	6.29%	191,993.78	(111,489)	377,489.55
1994	286,349	(102,560)	735		3,295,335.31	3,203,073.31	6.29%	201,473.31	(83,026)	393,376.86
1995	124,454	(97,501)	1,140		3,323,428.31	3,309,381.81	6.29%	208,160.12	(53,603)	450,432.98
1996	293,339	(84,166)			3,532,601.31	3,428,014.81	6.29%	215,622.13	(83,536)	498,353.11
1997	258,436	(95,372)			3,695,665.31	3,614,133.31	6.29%	227,328.99	(17,141)	613,169.09
1998	107,512	(89,988)			3,713,189.31	3,704,427.31	6.29%	233,008.48	(33,630)	722,559.57
1999	100,318	(61,105)			3,752,402.31	3,732,795.81	6.29%	234,792.86	(24,962)	871,285.43
2000	68,432	(33,293)			3,787,541.31	3,769,971.81	6.29%	237,131.23	(15,619)	1,059,504.66
2001	7,567	(1,754)			3,793,354.31	3,790,447.81	6.29%	238,419.17	(10,496)	1,285,673.82
2002	6,528	(4,182)			3,795,700.31	3,794,527.31	6.29%	238,675.77	(1,481)	1,518,686.59
2003	13,078	*(25,200)*			3,783,578.31	3,789,639.31	6.29%	238,368.31	(1,382)	1,730,472.90
Actual negative net salvage for the years 1992-2004. Prior to 1992 based on a 15% of retirments for each year. (15% Negative net Selvage approved DTE rate)										

Information Request City 1-14

Please provide the calculation of the unamortized investment of the total streetlight plant in Cambridge using the method used by NSTAR in calculating the unamortized value of the total streetlight plant in Waltham, which occurred several months after the ruling in DTE 01-25. Please present that calculation in the same 11 column format used by Mr. Chernick in Exhibit CAM 5. If the same method was used for both Lexington and Waltham, a statement to that effect would be responsive to this question.

Response

The Waltham decision is relevant only to how depreciation reserve is allocated to sub-accounts under the method used for Lexington. As discussed in the Company's response to Information Request City-1-13, the Company did not create an artificial reserve balance for each sub-account to calculate Cambridge's price for streetlights.

Information Request City 1-15

For each year since 1942, please provide for account 373 the year-end and average gross plant balance, the annual depreciation expense, the accumulated depreciation balance, and net plant.

Response

Please refer to Attachment City-1-15 for the requested information. This calculation is based on the City's Exhibit CAM-5, but corrects for the apparent omission of Salvage and Cost of Removal from the City's calculations. In responding to this question, the Company used actual negative net salvage for the years 1989-2004, and an estimated rate of 15 percent negative net salvage value in earlier years, based on the Department-approved 15 percent negative net salvage rate (see D.P.U. 92-250, at 70, a copy of which as been provided as Attachment City-1-3(b)). Please note that the resulting accumulated depreciation as of December 31, 2003 on Attachment City-1-15 of $2,346,142 does not tie exactly to Column E, line 284 of Exhibit NSTAR-1, which is $2,218,498. However, this minor variance of 5.8 percent indicates that once the City's calculations have been corrected for the inclusion of salvage and the cost of removal, there is a very close correlation between the actual amounts on the Company's books and the City's theoretical calculation. The validity of this revised calculation can also be seen by comparing the calculated reserve in each year with the amounts approved by the Department in each of the Company's past rate cases as follows:

Year	Rate Case	As Calculated	Difference	Percent
1973	863,912	911,009	47,097	5.5%
1978	999,435	1,116,547	117,112	11.7%
1986	1,538,747	1,482,953	(55,794)	(3.6%)
1991	2,421,686	2,394,120	(27,566)	(1.1%)

Attachment City-1-15 also reflects actual additions of $13,078 and retirements of $25,200 during the year 2003.

Accumulated Depreciation of Street Light and Signal Systems Attachment City-1-15

Year	Additions	Retirements	Transfers	Adjustment	Balance	Depreciation Rate	Depreciation Annual	Depreciation Neg. Salvage	Depreciation Accumulated	Net Plant System
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
ining Balance					376,009		-		8	376,001
1942	2,017	(2,979)			375,048	6.46%	24,259	(447)	20,842	354,206
1943	1,907	(14,513)		(1,036)	361,406	6.46%	23,787	(2,177)	27,940	333,467
1944	3,542	(2,943)		31	362,036	6.46%	23,367	(441)	47,922	314,114
1945	3,152	(3,528)		262	361,922	6.46%	23,384	(529)	67,249	294,674
1946	14,515	(7,941)		(1,353)	367,144	6.46%	23,549	(1,191)	81,666	285,478
1947	53,139	(26,256)		52	394,079	6.46%	24,588	(3,938)	76,059	318,021
1948	19,653	(11,840)			401,892	6.46%	25,710	(1,776)	88,152	313,740
1949	46,954	(23,882)			424,964	6.46%	26,707	(3,582)	87,396	337,568
1950	11,550	(5,015)			431,499	6.46%	27,664	(752)	109,292	322,207
1951	17,436	(7,409)			441,526	6.46%	28,199	(1,111)	128,970	312,555
1952	9,066	(3,914)			446,677	6.46%	28,689	(587)	153,158	293,520
1953	22,698	(6,880)			462,496	6.46%	29,366	(1,032)	174,612	287,884
1954	9,154	(4,062)			467,588	6.46%	30,042	(609)	199,982	267,606
1955	11,695	(5,507)			473,777	6.46%	30,406	(826)	224,055	249,721
1956	8,584	(2,536)			479,825	6.46%	30,801	(380)	251,940	227,885
1957	5,220	(2,789)	(171,432)		310,823	6.46%	25,538	(418)	274,271	36,553
1958	40,456	(4,314)			346,965	6.46%	21,247	(647)	290,556	56,409
1959	36,624	(21,227)			362,362	6.46%	22,911	(3,184)	289,057	73,306
1960	62,238	(17,972)			406,628	6.46%	24,838	(2,696)	293,227	113,401
1961	20,861	(8,262)	26,707		445,933	6.46%	27,538	(1,239)	311,263	134,670
1962	94,215	(28,278)	(541)		511,329	6.46%	30,920	(4,242)	309,663	201,667
1963	64,025	(27,539)			547,815	6.46%	34,210	(4,131)	312,203	235,612
1964	48,324	(19,182)	(314)		576,643	6.46%	36,320	(2,877)	326,464	250,179
1965	127,949	(38,570)	(139)		665,884	6.46%	40,134	(5,786)	322,242	343,641
1966	64,709	(16,589)			714,004	6.46%	44,570	(2,488)	347,736	366,269
1967	116,319	(57,960)			772,363	6.46%	48,010	(8,694)	329,091	443,272
1968	224,190	(102,473)	(29)		894,051	6.46%	53,825	(15,371)	265,072	628,979
1969	68,046	(31,498)	(2,470)		928,130	6.46%	58,856	(4,725)	287,706	640,424
1970	241,914	(78,484)	46	62	1,091,668	6.46%	65,239	(11,773)	262,689	828,979
1971	94,239	(37,271)	(126)		1,148,510	6.46%	72,358	(5,591)	292,185	856,325
1972	130,277	(83,486)	(170)		1,195,131	6.46%	75,700	(12,523)	271,876	923,255
1973	61,329	(31,642)		(162)	1,224,656	6.46%	78,159	(4,746)	313,647	911,009
1974	49,566	(23,357)		(103)	1,250,762	6.46%	79,956	(3,504)	366,742	884,020
1975	60,338	(45,976)	(133)		1,264,991	6.46%	81,259	(6,896)	395,129	869,862
1976	110,149	(43,468)	165,321	98,890	1,595,883	6.46%	92,406	(6,520)	437,547	1,158,336
1977	43,625	(19,662)	(377)		1,619,469	5.00%	80,384	(2,949)	495,319	1,124,150
1978	70,497	(26,493)			1,663,473	5.00%	82,074	(3,974)	546,926	1,116,547
1979	59,088	(22,921)	(6,402)		1,693,238	5.00%	83,918	(3,438)	604,484	1,088,754
1980	49,798	(20,250)			1,722,786	5.00%	85,401	(3,038)	666,597	1,056,188
1981	76,333	(29,361)	(179)		1,769,579	5.00%	87,309	(4,404)	720,141	1,049,437
1982	214,686	(64,353)			1,919,912	5.00%	92,237	(9,653)	738,373	1,181,539
~~1983~~	~~157,247~~	~~(40,634)~~	~~(747)~~		~~2,035,778~~	~~5.00%~~	~~98,892~~	~~(6,095)~~	~~790,536~~	~~1,245,242~~
1984	157,446	(85,224)			2,108,000	5.00%	103,594	(12,784)	796,123	1,311,877
1985	161,893	(107,586)			2,162,307	5.00%	106,758	(16,138)	779,156	1,383,150
1986	186,883	(83,641)			2,265,549	4.50%	99,627	(12,546)	782,596	1,482,953
1987	145,342	(84,803)	(26)		2,326,062	4.50%	103,311	(12,720)	788,384	1,537,678
1988	134,227	(80,141)	(1,073)		2,379,075	4.50%	105,866	(12,021)	802,087	1,576,988
1989	205,261	(93,270)			2,491,066	4.50%	109,578	(13,991)	804,405	1,686,661
1990	395,165	(240,002)	(5,259)		2,640,970	4.50%	115,471	(36,000)	643,873	1,997,096
1991	418,094	(265,551)	(199)		2,793,314	6.10%	165,746	(39,833)	504,235	2,289,078
1992	400,369	(200,499)	736		2,993,920	6.29%	182,008	(190,045)	295,700	2,698,220
1993	303,602	(186,710)			3,110,812	6.29%	191,994	(111,489)	189,495	2,921,317
1994	286,349	(102,560)	735		3,295,336	6.29%	201,473	(83,026)	205,382	3,089,954
1995	124,454	(97,501)	1,140		3,323,429	6.29%	208,160	(53,603)	262,438	3,060,991
1996	293,339	(84,166)			3,532,602	6.29%	215,622	(83,536)	310,358	3,222,243
1997	258,436	(95,372)			3,695,666	6.29%	227,329	(17,141)	425,174	3,270,491
1998	107,512	(89,988)			3,713,190	6.29%	233,009	(33,630)	534,565	3,178,625
1999	100,318	(61,105)			3,752,403	6.29%	234,793	(24,962)	683,291	3,069,112
2000	68,432	(33,293)			3,787,542	6.29%	237,131	(15,619)	871,510	2,916,032
2001	7,567	(1,754)			3,793,355	6.29%	238,419	(10,496)	1,097,679	2,695,676
2002	6,528	(4,182)			3,795,701	6.29%	238,676	(1,481)	1,330,692	2,465,009
2003	13,078	*(25,200)*			3,783,579	6.29%	238,368	(1,382)	1,542,478	2,241,100
nid-200	*6,539*	*(12,600)*			3,777,518	6.29%	118,898	(22,717)	1,626,060	2,151,458

[1]-[4] From CELCo *CambridgeStLt_ADDS_RETRES2adj_transf.xls*; 2003 [1] from CLECo *CambridgeDec03.xls*,[2] = avg 2000-02; 2004 = half of 2003

[5] Previous year's [5] + current year's [1] through [4]; Beginning Balance from CELCo file *CambridgeStLt_ADDS_RETRES2adj_transf.xls*

[6] From J Stephens email to J Shortsleeve, 28 May 2004 for 1973, 1978, 1986, 1991, 1992 (investment-weighted average of sub-account rates) and 2000; other years extrapolated and interpolated

[7] [6] × average of [5] for current and previous year

[8] Actual negative net salvage for the years 1992-2004. Prior to 1992 based on a 15% of retirments for each year. (15% Negative net Selvage approved DTE rate)

[9] Previous year's [9] + current year's [2] and [7] and [8]

[10] [5] + [9]

Information Request City 1-16

Please provide Additions, Retirements, Transfers, Adjustment, and Balance by year from 1942 through September 30, 2004, consistent with the data used in Exhibit NSTAR-2.

Response

Attachment City-1-16 shows additions retirements, adjustments and plant balances by year from 1942 through September 30, 2004. As further discussed in the Company's responses to Information Requests DTE-1-1 and City-1-29, the Accumulated Depreciation balance on Exhibit NSTAR-2 is the total accumulated depreciation as of September 30, 2004, which has then been allocated to the individual vintage years for purposes of allocating the total streetlighting investment to the private, City and MDC lights.

Cambridge Electric Light Company; Account 373 Street Light and Signal Systems

Year	Additions [1]	Retirements [2]	Transfers [3]	Adjustment [4]	Balance [5]
Beginning Balance					376,009
1942	2,017	(2,979)			375,048
1943	1,907	(14,513)		(1,036)	361,406
1944	3,542	(2,943)		31	362,036
1945	3,152	(3,528)		262	361,922
1946	14,515	(7,941)		(1,353)	367,144
1947	53,139	(26,256)		52	394,079
1948	19,653	(11,840)			401,892
1949	46,954	(23,882)			424,964
1950	11,550	(5,015)			431,499
1951	17,436	(7,409)			441,526
1952	9,066	(3,914)			446,677
1953	22,698	(6,880)			462,496
1954	9,154	(4,062)			467,588
1955	11,695	(5,507)			473,777
1956	8,584	(2,536)			479,825
1957	5,220	(2,789)	(171,432)		310,823
1958	40,456	(4,314)			346,965
1959	36,624	(21,227)			362,362
1960	62,238	(17,972)			406,628
1961	20,861	(8,262)	26,707		445,933
1962	94,215	(28,278)	(541)		511,329
1963	64,025	(27,539)			547,815
1964	48,324	(19,182)	(314)		576,643
1965	127,949	(38,570)	(139)		665,884
1966	64,709	(16,589)			714,004
1967	116,319	(57,960)			772,363
1968	224,190	(102,473)	(29)		894,051
1969	68,046	(31,498)	(2,470)		928,130
1970	241,914	(78,484)	46	62	1,091,668
1971	94,239	(37,271)	(126)		1,148,510
1972	130,277	(83,486)	(170)		1,195,131
1973	61,329	(31,642)		(162)	1,224,656
1974	49,566	(23,357)		(103)	1,250,762
1975	60,338	(45,976)	(133)		1,264,991
1976	110,149	(43,468)	165,321	98,890	1,595,883
1977	43,625	(19,662)	(377)		1,619,469
1978	70,497	(26,493)			1,663,473
1979	59,088	(22,921)	(6,402)		1,693,238
1980	49,798	(20,250)			1,722,786
1981	76,333	(29,361)	(179)		1,769,579
1982	214,686	(64,353)			1,919,912
1983	157,247	(40,634)	(747)		2,035,778
1984	157,446	(85,224)			2,108,000
1985	161,893	(107,586)			2,162,307
1986	186,883	(83,641)			2,265,549
1987	145,342	(84,803)	(26)		2,326,062
1988	134,227	(80,141)	(1,073)		2,379,075
1989	205,261	(93,270)			2,491,066
1990	395,165	(240,002)	(5,259)		2,640,970
1991	418,094	(265,551)	(199)		2,793,314
1992	400,369	(200,499)	736		2,993,920
1993	303,602	(186,710)			3,110,812
1994	286,349	(102,560)	735		3,295,336
1995	124,454	(97,501)	1,140		3,323,429
1996	293,339	(84,166)			3,532,602
1997	258,436	(95,372)			3,695,666
1998	107,512	(89,988)			3,713,190
1999	100,318	(61,105)			3,752,403
2000	68,432	(33,293)			3,787,542
2001	7,567	(1,754)			3,793,355
2002	6,528	(4,182)			3,795,701
2003	13,672	*(25,200)*			3,784,173
9/30/2004	24,484	(19,195)			3,789,462

Information Request City 1-17

Please provide the accumulated depreciation relating to street lighting as recorded on the books from the Company's records, at year-end, for each year, 1941 to the present.

Response

Please refer Attachment City-1-15, for an approximate calculation of the accumulated depreciation relating to streetlighting equipment for each year since 1941.

Information Request City 1-19

Please provide the DPU-approved depreciation rates that were applied to streetlighting equipment in each year, 1943 to the present (referred to in the Vaughan Affidavit, paragraph 12). If this is different from the depreciation rates listed in response to questions 7, please explain any such difference.

Response

Please refer to the Company's response to Information Request City-1-7 for a discussion of the depreciation rates used by the Company.

Information Request City 1-21

Please specify at what year, the Company started accounting for depreciation expense and accumulated depreciation separately for sub accounts within Account 373 (e.g., 632, 633, 634, 635, 636).

Response

As discussed in the Company's response to Information Request City-1-7, the calculation of depreciation expense was done on a sub-account basis until 1999. At that point, the Company switched to a streetlighting composite depreciation rate. The Company has never accounted for accumulated depreciation by sub-account. Please see the Company's response to Information Requests City-1-29 and DTE-1-11 for a discussion of how Iowa curves are used to allocated the total streetlight accumulated depreciation to the individual sub-accounts and vintages.

Information Request City 1-23

Please document the Company's calculation for the books in each of the years 1990-1994 of the accumulated depreciation relating to streetlighting (as described in the Vaughan Affidavit, paragraphs 12-14). Include data, assumptions and workpapers.

Response

Please refer to the Company's response to Information Request City-1-15.

Information Request City 1-24

Please document the Company's calculation for the books in each of the years 1943-1947 (or the earliest five years for which such data are available) of the accumulated depreciation relating to streetlighting (as described in the Vaughan Affidavit, paragraphs 12-14). Include data, assumptions and workpapers.

Response

Please refer to the Company's response to Information Request City-1-15.

Information Request City 1-25

Please provide the Company's calculation of the total streetlighting depreciation expense and change in total accumulated depreciation between December 31, 2003 and September 30, 2004, as reflected in Exhibit NSTAR-2.

Response

The following is the calculation of streetlighting depreciation expense for the nine months ending September 30, 2004.

	Dollars in Thousands
Beginning Plant Investment	$ 3,784
Plus Estimated Net Additions /2	$417
Total Depreciation Base	$4,201
Depreciation Rate	6.29%
Annual Deprecation Amount	$ 264
Nine Mos. Ending September, Depreciation Expense ($264 x .75)	$ 198

Since NSTAR uses a mid-year convention to calculate depreciation expense, there is a depreciation expense true-up in December to reflect the actual net additions for the year divided by 2. Any adjustment for the over or under accrual of depreciation expense is typically included as part of the December expense.

The following is the calculation of the change in street lighting accumulated depreciation for the nine months ending September 30, 2004.

	Dollars in Thousands
Beginning Accumulated Depreciation 1/1/04	$1,565
Plus: Depreciation Expense (9 Mos. September)	198
Less: Retirements (9 Mos. September)	19
Less: Negative Net Salvage (9 Mos. September)	22
Ending Accumulated Depreciation 9/30/04	$1,722

Information Request City 1-26

Separately for each line of Exhibit NSTAR-2, please provide the calculation of the depreciation expense and change in accumulated depreciation between December 31, 2003 and September 30, 2004.

Response

The Company is unable to fully respond to this question because it is based on an incorrect premise. The Company does not record depreciation expense by sub-account or vintages. See Information Request City 1-25 for the calculation for depreciation expense and the change in accumulated depreciation between December 31, 2003 and September 30, 2004.

Information Request City 1-28

Please provide the derivation of depreciation reserve for each line of Exhibit NSTAR-2, including assumptions, calculations, and workpapers.

Response

Please see the Company's response to Information Request City-1-27.

Information Request City 1-30

Please document in detail with supporting spreadsheets and workpapers how Iowa curves were used to determine accumulated depreciation (as stated in the Exhibit CAM-4, July 28, 2003 e-mail, page 2).

Response

The Company is unable to fully respond to this question since it rests on an incorrect premise. The referenced email did not say that Iowa curves determined the total accumulated depreciation. The discussion in that email was an attempt to help the City understand that utilities do not depreciate individual units of mass property and also do not record accumulated depreciation related to each individual unit of mass property. As discussed in the Company's response to Information Request DTE-1-1, the Iowa curves do not affect the total streetlight equipment accumulated depreciation, only the allocation of that total to the individual vintage years.

Information Request City 1-31

Regarding the $1,907 of Additions in 1943 (in Exhibit CAM-3), please calculate accumulated depreciation as of the year-end 2003 under the following hypotheticals (identifying and making any additional assumptions necessary for these three calculations):

(1) all 1943 equipment except the $138.02 remaining in 2003 was retired in 1983

(2) all 1943 equipment except the $138.02 remaining in 2003 was retired in 1963.

(3) all 1943 equipment except the $138.02 remaining in 2003 was retired in 1944.

Response

Attachment City-1-31 that performs the above requested calculations showing following accumulated depreciation amounts and assuming flat 15% negative net salvage as discussed in the Company's response to Information Request City-1-15:

(1)	$2,880	See Attachment City-1-31, Page 1
(2)	$762	See Attachment City-1-31, Page 2
(3)	$(1,409)	See Attachment City-1-31, Page 3

1983

Year	Additions [1]	Retirements [2]	Transfers [3]	Adjustment [4]	Balance [5]	Depreciation Rate [6]	Annual [7]	Neg. Salvage [11]	Accumulated [8]	Net Plant System [9]
Beginning Balance					0		-		-	-
1942					0	6.46%	-		-	-
1943	1,907				1,907	6.46%	62		62	1,845
1944					1,907	6.46%	123	-	185	1,722
1945					1,907	6.46%	123	-	308	1,599
1946					1,907	6.46%	123	-	431	1,476
1947					1,907	6.46%	123	-	554	1,353
1948					1,907	6.46%	123	-	677	1,229
1949					1,907	6.46%	123	-	801	1,106
1950					1,907	6.46%	123	-	924	983
1951					1,907	6.46%	123	-	1,047	860
1952					1,907	6.46%	123	-	1,170	737
1953					1,907	6.46%	123	-	1,293	613
1954					1,907	6.46%	123	-	1,417	490
1955					1,907	6.46%	123	-	1,540	367
1956					1,907	6.46%	123	-	1,663	244
1957					1,907	6.46%	123	-	1,786	121
1958					1,907	6.46%	123	-	1,909	(2)
1959					1,907	6.46%	123	-	2,032	(126)
1960					1,907	6.46%	123	-	2,156	(249)
1961					1,907	6.46%	123	-	2,279	(372)
1962					1,907	6.46%	123	-	2,402	(495)
1963					1,907	6.46%	123	-	2,525	(618)
1964					1,907	6.46%	123	-	2,648	(742)
1965					1,907	6.46%	123	-	2,772	(865)
1966					1,907	6.46%	123	-	2,895	(988)
1967					1,907	6.46%	123	-	3,018	(1,111)
1968					1,907	6.46%	123	-	3,141	(1,234)
1969					1,907	6.46%	123	-	3,264	(1,357)
1970					1,907	6.46%	123	-	3,387	(1,481)
1971					1,907	6.46%	123	-	3,511	(1,604)
1972					1,907	6.46%	123	-	3,634	(1,727)
1973					1,907	6.46%	123	-	3,757	(1,850)
1974					1,907	6.46%	123	-	3,880	(1,973)
1975					1,907	6.46%	123	-	4,003	(2,097)
1976					1,907	6.46%	123	-	4,127	(2,220)
1977					1,907	5.00%	95	-	4,222	(2,315)
1978					1,907	5.00%	95	-	4,317	(2,410)
1979					1,907	5.00%	95	-	4,413	(2,506)
1980					1,907	5.00%	95	-	4,508	(2,601)
1981					1,907	5.00%	95	-	4,603	(2,696)
1982					1,907	5.00%	95	-	4,699	(2,792)
1983		(1,769)			138	5.00%	51	(265)	2,715	(2,578)
1984					138	5.00%	7		2,722	(2,584)
1985					138	5.00%	7		2,729	(2,591)
1986					138	4.50%	6		2,735	(2,598)
1987					138	4.50%	6		2,742	(2,604)
1988					138	4.50%	6		2,748	(2,610)
1989					138	4.50%	6		2,754	(2,616)
1990					138	4.50%	6		2,760	(2,622)
1991					138	6.10%	8		2,769	(2,631)
1992					138	6.29%	9		2,777	(2,639)
1993					138	6.29%	9		2,786	(2,648)
1994					138	6.29%	9		2,795	(2,657)
1995					138	6.29%	9		2,803	(2,665)
1996					138	6.29%	9		2,812	(2,674)
1997					138	6.29%	9		2,821	(2,683)
1998					138	6.29%	9		2,829	(2,691)
1999					138	6.29%	9		2,838	(2,700)
2000					138	6.29%	9		2,847	(2,709)
2001					138	6.29%	9		2,855	(2,717)
2002					138	6.29%	9		2,864	(2,726)
2003					138	6.29%	9		2,873	(2,735)
Sep04					138	6.29%	7		**2,880**	(2,742)

1953

Year	Additions [1]	Retirement [2]	Transfers [3]	Adjustment [4]	Balance [5]	Depreciation Rate [6]	Annual [7]	Neg. Salvage [11]	Accumulated [8]	Net Plant System [9]
Beginning Balance					0		-		-	-
1942					0	6.46%	-		-	-
1943	1,907				1,907	6.46%	62		62	1,845
1944					1,907	6.46%	123	-	185	1,722
1945					1,907	6.46%	123	-	308	1,599
1946					1,907	6.46%	123	-	431	1,476
1947					1,907	6.46%	123	-	554	1,353
1948					1,907	6.46%	123	-	677	1,229
1949					1,907	6.46%	123	-	801	1,106
1950					1,907	6.46%	123	-	924	983
1951					1,907	6.46%	123	-	1,047	860
1952					1,907	6.46%	123	-	1,170	737
1953					1,907	6.46%	123	-	1,293	613
1954					1,907	6.46%	123	-	1,417	490
1955					1,907	6.46%	123	-	1,540	367
1956					1,907	6.46%	123	-	1,663	244
1957					1,907	6.46%	123	-	1,786	121
1958					1,907	6.46%	123	-	1,909	(2)
1959					1,907	6.46%	123	-	2,032	(126)
1960					1,907	6.46%	123	-	2,156	(249)
1961					1,907	6.46%	123	-	2,279	(372)
1962					1,907	6.46%	123	-	2,402	(495)
1963		(1,769)			138	6.46%	66	(265)	434	(296)
1964					138	6.46%	9	-	443	(305)
1965					138	6.46%	9	-	452	(314)
1966					138	6.46%	9	-	460	(323)
1967					138	6.46%	9	-	469	(332)
1968					138	6.46%	9	-	478	(340)
1969					138	6.46%	9	-	487	(349)
1970					138	6.46%	9	-	496	(358)
1971					138	6.46%	9	-	505	(367)
1972					138	6.46%	9	-	514	(376)
1973					138	6.46%	9	-	523	(385)
1974					138	6.46%	9	-	532	(394)
1975					138	6.46%	9	-	541	(403)
1976					138	6.46%	9	-	549	(412)
1977					138	5.00%	7	-	556	(419)
1978					138	5.00%	7	-	563	(425)
1979					138	5.00%	7	-	570	(432)
1980					138	5.00%	7	-	577	(439)
1981					138	5.00%	7	-	584	(446)
1982					138	5.00%	7	-	591	(453)
1983					138	5.00%	7	-	598	(460)
1984					138	5.00%	7	-	605	(467)
1985					138	5.00%	7	-	611	(474)
1986					138	4.50%	6		618	(480)
1987					138	4.50%	6		624	(486)
1988					138	4.50%	6		630	(492)
1989					138	4.50%	6		636	(498)
1990					138	4.50%	6		642	(505)
1991					138	6.10%	8		651	(513)
1992					138	6.29%	9		660	(522)
1993					138	6.29%	9		668	(530)
1994					138	6.29%	9		677	(539)
1995					138	6.29%	9		686	(548)
1996					138	6.29%	9		694	(556)
1997					138	6.29%	9		703	(565)
1998					138	6.29%	9		712	(574)
1999					138	6.29%	9		720	(582)
2000					138	6.29%	9		729	(591)
2001					138	6.29%	9		738	(600)
2002					138	6.29%	9		746	(608)
2003					138	6.29%	9		755	(617)
Sep04					138	6.29%	7		762	(624)

1944

Year	Addition [1]	Retiremen [2]	Transfers [3]	Adjustment [4]	Balance [5]	Depreciation Rate [6]	Annual [7]	Neg. Salvage [11]	Accumulated [8]	Net Plant System [9]
Beginning Balance					0		-		-	-
1942					0	6.46%	-		-	-
1943	1,907				1,907	6.46%	62		62	1,845
1944		(1,769)			138	6.46%	66	(265)	(1,907)	2,045
1945					138	6.46%	9	-	(1,898)	2,036
1946					138	6.46%	9	-	(1,889)	2,027
1947					138	6.46%	9	-	(1,880)	2,018
1948					138	6.46%	9	-	(1,871)	2,009
1949					138	6.46%	9	-	(1,862)	2,000
1950					138	6.46%	9	-	(1,853)	1,991
1951					138	6.46%	9	-	(1,844)	1,982
1952					138	6.46%	9	-	(1,835)	1,973
1953					138	6.46%	9	-	(1,827)	1,964
1954					138	6.46%	9	-	(1,818)	1,956
1955					138	6.46%	9	-	(1,809)	1,947
1956					138	6.46%	9	-	(1,800)	1,938
1957					138	6.46%	9	-	(1,791)	1,929
1958					138	6.46%	9	-	(1,782)	1,920
1959					138	6.46%	9	-	(1,773)	1,911
1960					138	6.46%	9	-	(1,764)	1,902
1961					138	6.46%	9	-	(1,755)	1,893
1962					138	6.46%	9	-	(1,746)	1,884
1963					138	6.46%	9	-	(1,738)	1,875
1964					138	6.46%	9	-	(1,729)	1,866
1965					138	6.46%	9	-	(1,720)	1,858
1966					138	6.46%	9	-	(1,711)	1,849
1967					138	6.46%	9	-	(1,702)	1,840
1968					138	6.46%	9	-	(1,693)	1,831
1969					138	6.46%	9	-	(1,684)	1,822
1970					138	6.46%	9	-	(1,675)	1,813
1971					138	6.46%	9	-	(1,666)	1,804
1972					138	6.46%	9	-	(1,657)	1,795
1973					138	6.46%	9	-	(1,649)	1,786
1974					138	6.46%	9	-	(1,640)	1,777
1975					138	6.46%	9	-	(1,631)	1,769
1976					138	6.46%	9	-	(1,622)	1,760
1977					138	5.00%	7	-	(1,615)	1,753
~~1978~~					~~138~~	~~5.00%~~	~~7~~	~~-~~	~~(1,608)~~	~~1,746~~
1979					138	5.00%	7	-	(1,601)	1,739
1980					138	5.00%	7	-	(1,594)	1,732
1981					138	5.00%	7	-	(1,587)	1,725
1982					138	5.00%	7	-	(1,580)	1,718
1983					138	5.00%	7	-	(1,574)	1,711
1984					138	5.00%	7	-	(1,567)	1,705
1985					138	5.00%	7	-	(1,560)	1,698
1986					138	4.50%	6		(1,554)	1,691
1987					138	4.50%	6		(1,547)	1,685
1988					138	4.50%	6		(1,541)	1,679
1989					138	4.50%	6		(1,535)	1,673
1990					138	4.50%	6		(1,529)	1,667
1991					138	6.10%	8		(1,520)	1,658
1992					138	6.29%	9		(1,512)	1,650
1993					138	6.29%	9		(1,503)	1,641
1994					138	6.29%	9		(1,494)	1,632
1995					138	6.29%	9		(1,486)	1,624
1996					138	6.29%	9		(1,477)	1,615
1997					138	6.29%	9		(1,468)	1,606
1998					138	6.29%	9		(1,460)	1,598
1999					138	6.29%	9		(1,451)	1,589
2000					138	6.29%	9		(1,442)	1,580
2001					138	6.29%	9		(1,434)	1,572
2002					138	6.29%	9		(1,425)	1,563
2003					138	6.29%	9		(1,416)	1,554
Sep04					138	6.29%	7		**(1,409)**	1,547

Information Request DTE-1-2

Refer to the Affidavit of Christine L. Vaughan at 2, ¶ 9. Provide complete and detailed documentation to demonstrate and explain the "original investment" in streetlighting equipment as shown on "the Company's books." Include all amounts and calculation include in determining the "original investment."

Response

The original investment is the cost incurred by the Company in installing the streetlighting equipment in that year. The Company follows the guidance provided by FERC in 18 CFR, part 101, Electric Plant Instructions in accumulating its original investment.

Please refer to the Company's response to Information Request City-1-1 for the amount of original investment in streetlighting equipment on the Company's books. The total of the column labeled "Cost" in Attachment City-11 (a) and (b) is the accumulated gross investment from the Company's Plant Account 373. The individual lines in the column show the remaining original investment from years 1943 to 2003 that are still on the books as of the valuation date.

The reference to "original investment" in the Affidavit of Christine L. Vaughan at 2, ¶ 9 could equally be phrased as "accumulated gross investment".

Information Request DTE-1-3

Refer to the Affidavit of Christine L, Vaughan at 3, ¶ 11. Provide the Department with the accumulated gross investment from the Company's Plant Account 373. Include all amounts and calculations included in determining the accumulated gross investment. Provide complete and detailed documentation to support your response.

Response

Please refer to Information Response DTE 1-2.

Information Request DTE-1-5

Refer to the Affidavit of Christine L. Vaughan at 3, ¶ 13. Provide the Department with the Company's records regarding accumulated depreciation as recorded in Account 108. Provide complete and detailed documentation to support your response.

Response

Please refer to the Company's response to Information Request City-1-9 for a detailed explanation of the factors that affect accumulated depreciation as recorded in Account 108. In addition, please refer to Attachment DTE-1-11(b) for document from the vendor of the Company's PowerPlant software that explains how accumulated depreciation is allocated to vintage years. Please refer to the Company's response to Information City-1-15 for the calculation of accumulated depreciation. Please refer to the following table for a summary of the net book value of streetlighting equipment calculated by the Company, and approved by the Department in each of its past base rate cases during the period 1973 to 1992. Also included in the table is a summary of the book values for the years 2000 to 2003 for reference purposes. Please refer to Attachment DTE-1-5 for copies of the Company's record of accumulated depreciation for the years 2000 – 2003.

Table 1

Cambridge Streetlighting Equipment - Dollars in Thousands

Year	Plant Balance	Book Depreciation Reserve	Net Book Value	Source
Col A	Col B	Col C	Col D = Col B- Col C	
Dec.31, 1973	1,225	361	864	1973 Depreciation Study
Dec. 31, 1978	1,663	664	999	1978 Depreciation Study
Dec. 31, 1986	2,266	727	1,539	1986 Depreciation Study
Dec. 31, 1991	2,793	398	2,396	1992 Depreciation Study
Jun. 30, 1992	2,890	469	2,422	1992 Depreciation Study
Dec. 31, 2000	3,788	934	2,854	From Company's Books
Dec. 31, 2001	3,793	1,157	2,636	From Company's Books
Dec. 31, 2002	3,796	1,389	2,406	From Company's Books
Dec. 31, 2003	3,784	1,566	2,218	From Company's Books

Attachment
DTE-1-5

Monthly Depreciation Reserve Activity
Cambridge Electric Light Co. Year 2000
Nstar Company

Starting Month: Jan/2000
Ending Month: Dec/2000

Cambridge Electric Light
Financial

Depr. Group	Beginning Reserve	Provision	Retirements	Cost of Removal	Salvage and Other Credits	Transfers and Adjustments	Loss / (Gain)	Ending Reserve
Former Com Companies								
373 CEL Dist Street Lighting	$730,066.00	$237,131.41	($33,293.01)	($15,618.50)	$0.00	$0.00	$0.00	$933,904.40
	$730,066.00	$237,131.41	($33,293.01)	($15,618.50)	$0.00	$0.00	$0.00	$933,904.40
Company Total:	730,066.00	237,131.41	(33,293.01)	(15,618.50)	0.00	0.00	0.00	933,904.40
Grand Total:	$730,066.00	$237,131.41	($33,293.01)	($15,618.50)	$0.00	$0.00	$0.00	$933,904.40

Monthly Depreciation Reserve Activity
Cambridge Electric Light Co. Year 2001
Nstar Company

Starting Month: Jan/2001
Ending Month: Dec/2001

Cambridge Electric Light

Financial

Depr. Group	Beginning Reserve	Provision	Retirements	Cost of Removal	Salvage and Other Credits	Transfers and Adjustments	Loss / (Gain)	Ending Reserve
Former Com Companies								
373 CEL Dist Street Lighting	$933,904.40	$235,833.00	($1,754.49)	($10,496.16)	$0.00	$0.00	$0.00	$1,157,486.75
	$933,904.40	$235,833.00	($1,754.49)	($10,496.16)	$0.00	$0.00	$0.00	$1,157,486.75
Company Total:	933,904.40	235,833.00	(1,754.49)	(10,496.16)	0.00	0.00	0.00	1,157,486.75
Grand Total:	$933,904.40	$235,833.00	($1,754.49)	($10,496.16)	$0.00	$0.00	$0.00	$1,157,486.75

Monthly Depreciation Reserve Activity
Cambridge Electric Light Co. Year 2002
Nstar Company

Starting Month: Jan/2002
Ending Month: Dec/2002

Cambridge Electric Light

Financial

Depr. Group	Beginning Reserve	Provision	Retirements	Cost of Removal	Salvage and Other Credits	Transfers and Adjustments	Loss / (Gain)	Ending Reserve
Former Com Companies								
373 CEL Dist Street Lighting	$1,157,486.75	$237,382.68	($4,180.94)	($1,481.16)	$0.00	$0.00	$0.00	$1,389,207.33
	$1,157,486.75	$237,382.68	($4,180.94)	($1,481.16)	$0.00	$0.00	$0.00	$1,389,207.33
Company Total:	1,157,486.75	237,382.68	(4,180.94)	(1,481.16)	0.00	0.00	0.00	1,389,207.33
Grand Total:	$1,157,486.75	$237,382.68	($4,180.94)	($1,481.16)	$0.00	$0.00	$0.00	$1,389,207.33

Monthly Depreciation Reserve Activity
Cambridge Electric Light Co. Year 2003
Nstar Company

Starting Month: Jan/2003
Ending Month: Dec/2003

Cambridge Electric Light
Financial

Depr. Group	Beginning Reserve	Provision	Retirements	Cost of Removal	Salvage and Other Credits	Transfers and Adjustments	Loss / (Gain)	Ending Reserve
Former Com Companies								
373 CEL Dist Street Lighting	$1,389,207.33	$238,387.08	($25,200.08)	($1,382.12)	$0.00	($35,589.92)	$0.00	$1,565,422.29
	$1,389,207.33	$238,387.08	($25,200.08)	($1,382.12)	$0.00	($35,589.92)	$0.00	$1,565,422.29
Company Total:	1,389,207.33	238,387.08	(25,200.08)	(1,382.12)	0.00	(35,589.92)	0.00	1,565,422.29
Grand Total:	$1,389,207.33	$238,387.08	($25,200.08)	($1,382.12)	$0.00	($35,589.92)	$0.00	$1,565,422.29

Information Request DTE-1-9

Refer to the Amended Answer to Respondent Cambridge Electric Light Company, at 2, ¶ 6. Explain and provide an example of how CELC's method for determining the purchase price of streetlighting equipment may assign a negative value to streetlights. Provide complete and detailed documentation to support your response.

Response

Please refer to the Company's response to Information Request DTE-1-5, specifically Attachment DTE-1-5, for a detailed discussion of how the allocation of depreciation reserve to individual vintages may result in negative values for some lights. As stated in one of the notes on page 2 of the attachment "...Because the "remaining reserve to allocate" may cross zero some vintage factors can be positive while others can be negative." For a more practical example, please refer to Exhibit NSTAR-2 in which streetlighting equipment installed in 1943 through 1947 do, in fact, have negative values. Please also refer to the Company's response to Information Request DTE-1-11 for more explanation on Iowa curve methodology.

Information Request DTE-1-10

In Petition of the City of Waltham, D.T.E. 02-11, at 6 (2002) the Department directed distribution companies to submit in all streetlight dispute proceedings schedules that demonstrate, by year, additions, retirements, net balance, average balance, depreciation rate, depreciation expense, negative salvage value and accumulated depreciation of the following accounts:

(1) Street Light OH Conductors (Acct. 632);

(2) Street Light Underground Conduit (Acct. 633);

(3) Street Light Underground Conductors (Acct. 634);

(4) Municipal Post, Fixtures, Luminaries (Acct. 635);

(5) Commercial Posts, Fixtures, Luminaries (Acct. 636); and

(6) Outdoor Street Light Transformers and Control Equipment (Acct. 637).

Using data for the City of Cambridge, please provide these schedules in the identical format (and columns) shown in Exh. W-4 of D.T.E. 02-11 (attached). In the columns entitled "depreciation rates" apply Department-approved depreciation rates for each year.

Response

Please refer to the Company's response to Information Request City-1-13 for the requested information.

Information Request DTE-1-11

Refer to Exh. CAM-4, at 2 of 3. The Company refers to its use of Iowa curves using an example of a person born in 1920 to explain its "convention for spreading remaining book value of the plant over the expected remaining average service life."

a) Explain how does the example applies to streetlighting plant that may have reached its useful life and has been fully depreciated, and has already been recovered through rates but is still in use.

b) Is the method the Company is using to value the streetlighting plant in this example a "theoretical" depreciation method?

c) Is the Company using a composite distribution plant depreciation rate to calculate the purchase price?

Provide complete and detailed documentation to support your responses.

Response

a) This concept is best explained by a hypothetical example.

Please refer to Attachment DTE-1-11 (a), Table 1 where a hypothetical example of five streetlights is depreciated individually. Note that in most cases, the age of the streetlights is lower than the expected service life and the lights have a positive net book value. In the case of streetlight #5, it is older than the expected service life and has a negative net book value. This is a reasonable hypothetical methodology for illustrative purposes but is impractical when thousands of items are included. In fact, if the Company did develop separate depreciation rates for each individual asset, the 30 year old asset would not be depreciated more than its original cost.

Assume that these same five streetlights are accounted for as mass property with a composite depreciation rate of 4.38 percent. Further assume that, for simplicity, there is no net salvage associated with these lights. Table 2 shows the resulting total accumulated depreciation at the same point in time. Therefore, before rates are changed and Iowa curves used, the Company has expensed $ 788 of depreciation on the $1,000 worth of assets, leaving $212 remaining to be depreciated.

At the time that new rates are established, the average remaining service

life for streetlights is re-estimated. Assume that an expert looked at the five remaining streetlights and determined that they are lasting much longer than originally anticipated. Streetlight #5 which is 30 years old still has another 2 years of life. Streetlights #1 to 3 are expected to last another two years over their original life estimates. Table 3 shows the hypothetical change in service life. Therefore, instead of an average service life of 22 years, the equipment is now estimated to have an average service life of 24 years.

As a result of the change in estimate of the service life, the remaining total of $212 that was to be depreciated on average for another 4 years (22 years of old service life – 18 years age) is now to be depreciated on average for another 6 years (24 new estimate of service life – 18 years average age). This is what we refer to as the "convention for spreading remaining book value of the plant over the expected remaining average service life."

Note that this does not change what was collected in depreciation to date. In both cases, $788 of depreciation was recorded. Only the rate of recognition of depreciation going forward is changed. The new rate of 3.5 percent better matches the expense of the assets over their in-service lives.

In reality, the individual contributions to net book value are not known at the time of rate setting. All that is known is the total accumulated depreciation to date and the total initial cost. The total accumulated depreciation is allocated to each streetlight vintage through the Iowa curve methodology. Table 4 uses the methodology to allocate the $788 o f accumulated depreciation to each of the vintage years. The formulas used are described in Attachment DTE-1-11 (b). In this example we use formula I(A) for the single depreciation group and the case where the reserve is less than or equal to the plant balance. The figures in Col G show the resulting allocated accumulated depreciation for each vintage.

A further example of how this methodology works can be demonstrated by examining the effect of the methodology on streetlight #5. This streetlight outlived its original expected service life. It is more than fully depreciated, where the amount collected through rates is greater than its original cost. Streetlight #5 contributed negative $63 to the total net book value of $212 prior to the rate setting and Iowa curve allocation (although this amount was not known during the process). After the Iowa curve allocation process, it now contributes negative $66 to the total net book

value of $212. Going forward, the Company would apply the new depreciation rate of 3.5 percent, making a further negative contribution to the total net book value.

b) The Company's method does not compute a "theoretical" depreciation expense, nor does it compute a "theoretical" accumulated depreciation reserve as the City's method would have us do. The depreciation expense and accumulated depreciation on the Company's books are real values reflective of exactly what the Company has recorded for accounting purposes.

c) The Company does not use a composite distribution plant depreciation rate. Only Department-approved, streetlight specific rates were used when depreciating streetlighting equipment.

Hypothetical Example of Five Streetlights

Table 1 - Individual asset depreciation

	Initial Cost Col A	Age Col B	Expected Service Life Col C	% Depreciated Col D	Total Accumulated Depreciation Col E	Net Book Value Col F
Streetlight #1	200	10	15	67%	133	67
Streetlight #2	100	15	20	75%	75	25
Streetlight #3	300	15	25	60%	180	120
Streetlight #4	200	20	25	80%	160	40
Streetlight #5	200	30	25	120%	240	-40
Total	1000				788	212
Average		18	22			

Col D = Col B/Col C
Col E = Col D * Col A
Col F = Col A - Col F

Table 2 - Depreciation calculation prior to depreciation rate setting

	Initial Cost Col A	Age Col B	Depreciation Rate Col C	Yearly Depreciation Col D	Total Accumulated Depreciation Col E	Net Book Value Col F
Streetlight #1	200	10	4.38%	9	88	112
Streetlight #2	100	15	4.38%	4	66	34
Streetlight #3	300	15	4.38%	13	197	103
Streetlight #4	200	20	4.38%	9	175	25
Streetlight #5	200	30	4.38%	9	263	-63
Total	1000				788	212
Average		18				

Col D = Col A * Col C
Col E = Col D * Col B
Col F = Col A - Col F

Table 3 - New Rate Setting - Mass Depreciation

	Initial Cost Col A	Age Col B	Old Expected Service Life Col C	New Expected Service Life Col D	Total Accumulated Depreciation Col E	Net Book Value Col F
Streetlight #1	200	10	15	17		
Streetlight #2	100	15	20	22		
Streetlight #3	300	15	25	27		
Streetlight #4	200	20	25	22		
Streetlight #5	200	30	25	32		
Total	1000				788	212
Average		18	22	24		

Col D = new estimate
Col E = Total Accumulated to date (Table 3)
Col F = Col A - Col F

Amount to collec 212 assumes 0 net salvage
Years remaining 6 Col D-Col B
% depreciation 3.5% Col F/(Col A*(Col D-ColB)

Table 4 - Iowa Curve Allocation Methodology S=0 Rb= 788
Assume year is 2000

Vintage Col A		Initial Cost Col C	Av Col D	Pv Col E	(Pv *Av) Col F	Allocated Accumulated Depreciation Col G
1970	Steetlight #5	200	29.5	200	5900	266
1980	Streetlight #4	200	19.5	200	3900	176
1985	Streetlight #3	300				
	Streetlight #2	100				
	Total	400	14.5	400	5800	261
1990	Streetlight #1	200	9.5	200	1900	86
	Total	1000			17500	788

Table 5 - Resulting net balances after Iowa Curves Methodology

	Initial Cost Col A	Age Col B	New Expected Service Life Col D	Total Accumulated Depreciation Col E	Net Book Value Col F
Streetlight #1	200	10	17	86	114
Streetlight #2	100	15	22		
Streetlight #3	300	15	27	261	139
Streetlight #4	200	20	22	176	24
Streetlight #5	200	30	32	266	-66
Total	1000			788	212
Average		18	24		

AH. DTE 1-11 (b)

MEMORANDUM

PowerPlan Consultants, Inc.
1600 Parkwood Circle
Suite 600
Atlanta, Georgia 30339
770-859-0402

TO: Larry Poore
FROM: Mark Heinemann
SUBJECT: PowerPlant Depreciation
DATE: November 14, 2000

In the utility industry, group depreciation is used for most assets. This is done by applying a composite rate to assets in all vintages in a class, usually a FERC account. The rate takes into account the average expected life, a mortality dispersion curve, and the age of the individual assets. This method produces the most accurate depreciation results, since each asset is depreciated over its actual life, some shorter than the average and some much longer. For example, if a pole has an average life of 30 years, an individual pole may already be 40 years old. Its expected life is not 30 years, but given that it has already lasted 40 years, its expected life may be 46 years (computed from a mortality curve). Thus we would expect to find it 40/46 percent depreciated. Of course there are minor reserve imbalances that occur from time to time. PowerPlant uses these remaining life computations (theoretical reserve) to accurately allocate the actual reserve to all the corresponding assets and vintages. The attached document outlines the computation.

Depreciation Reserve Allocation Methodology

Overview:
During each month end close the PowerPlant CPR reserve allocation factors, or reserve ratios, are calculated to provide quick reporting of net book value (NBV) for assets. There are two methodologies used in calculating the factors: (I) Dollar-Age weighting is the default methodology, and (II) Theoretical Reserve Allocation is used whenever a mortality curve and average service life is supplied on a depreciation method (If the "End of Life" field is populated it will be used as the truncation date). Both methodologies are based on a Depreciation Group Vintage Summary, which is the CPR plant for each depreciation group-vintage combination. Therefore, any asset's allocated reserve is the plant balance multiplied by the allocation factor for the asset's depreciation group and vintage.

Equations (for a single depreciation group):

(I) Dollar-Age Reserve Allocation Factors: $F_v = R_v / P_v$

where P_v = Vintage Plant Balance
R_v = Vintage (Age) Allocated Reserve

(A) Reserve <= Plant:

$$R_v = \frac{P_v \cdot A_v}{\sum_v [P_v \cdot A_v]} \cdot R_b$$

process oldest vintages until $R_v <= P_v \cdot (1 - S_n)$

(B) Reserve > Plant:

$$R_v = \left(\frac{P_v \cdot A_v}{\sum_v [P_v \cdot A_v]} \cdot R_x \right) + (P_v \cdot (1 - S_n))$$

(C) Opposite signs:

$$R_v = \frac{P_v \cdot A_v}{\sum_v [P_v \cdot A_v]} \cdot R_b$$

without limits on R_v

where S_n = Net Salvage Rate

$A_v = (year - vin - 0.5) + \frac{month}{12}$ = Age (half-year convention)

R_b = Total Actual (Booked) Reserve

$R_x = R_b - \sum_v [P_v \cdot (1 - S_n)]$ = Excess Reserve

NOTE:

- When total reserve exceeds total plant (either both positive or both negative) for a depreciation group, all vintages will be fully reserved with at least a factor equal to one.
- When the signs for total reserve and total plant do not match (one is negative, the other is positive), a straight weighting is done across vintages without checking for the fully reserved condition. Because the "remaining reserve to allocate" may cross zero some vintage factors can be positive while others can be negative. Also, the factors can potentially become many times greater than one for individual vintages
- When year = vintage $A_v = \frac{month}{24}$

(II) Theoretical Reserve Allocation Factors:

$$F_v = F_t + F_a$$

$$F_t = F_y + (F_m \cdot M)$$

where F_t = Vintage Theoretical Factor
F_y = Theoretical Factor (see "Theoretical Factor Calculation")
F_m = $(F_{y+1} - F_y)/12$ = Theoretical monthly factor increment
M = Month of the year (January = 1, December = 12)
F_a = Vintage Factor Adjustment (see A–C)

(A) Actual Reserve = Theoretical Reserve:

$$F_a = 0$$

(B) Actual Reserve > Theoretical Reserve:

(i) $$F_a = k \sum_v [F_t \cdot (1 - F_t) \cdot (F_t)]$$

solve for k:

(ii) $$k = \frac{R_b - R_t}{\sum_v [R_v \cdot (1 - F_t) \cdot (F_t)]}$$

if k is between –1 and 1 then use in (i) to calculate F_a; otherwise iterate over (i) and (ii) substituting F_t with F_t':

(iii) $$F_t' = F_t \cdot (1 - F_t) \cdot (F_t)$$

(C) Actual Reserve < Theoretical Reserve:

$$F_a = \left(\frac{R_b}{R_t} - 1\right) \cdot F_v \cdot (1 - S_n)$$

where P_v = Vintage Plant Balance
S_n = Net Salvage Rate
R_v = $\sum_v [P_v \cdot (1 - S_n) \cdot F_v]$ = Vintage Theoretical Reserve
R_t = $\sum_v R_v$ = Total Theoretical Reserve
R_b = Total Actual (Booked) Reserve

NOTE:

- Vintages that exceed the maximum life for the specified mortality curve and average service life with be given a Theoretical Reserve Factor (F_v) equal to one.
- Dollar-Age allocation is used if all vintages for a given depreciation group exceed the maximum life for the specified mortality curve and average service life.

Theoretical Factor (F_y) Calculation:

$$F_y = 1 - RL_f$$

(A) RL_f for Whole Life:

$$RL_f = \frac{(RL\% \times \%Srv)}{10000}$$

where RL% = Remaining Life Percentage from curve data for current age
%Srv = Percent Surviving from curve data for current age

(B) RL_f for Life Span (specified End of Life):

$$RL_f = \frac{(RL\% \times \%Srv) - (RL\%_T \times \%Srv_T)}{10000}$$

where RL% = Remaining Life Percentage from curve data for current age
%Srv = Percent Surviving from curve data for current age
$RL\%_T$ = Remaining Life Percentage from curve data for truncation age
$\%Srv_T$ = Percent Surviving from curve data for truncation age